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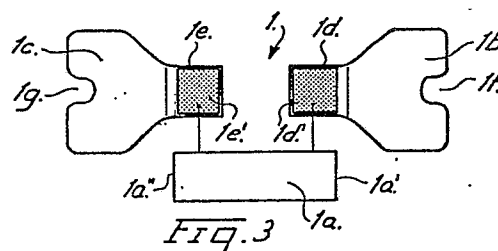
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54 **A bandage.**

57 The present invention relates to a bandage which preferably has a greater length than width and which comprises a centre part (1a) and bandage securing ends (1b, 1c) located on mutually opposite sides of the centre part. Only the securing ends of the bandage are provided on one side thereof with an adhesive coating for securing the securing ends to an area of skin. One securing end (1c) is intended to be affixed to a skin area (2) in the lumbar region while the other securing end (1b) is intended to be affixed to a skin area (3) in the region of the lower or intermediate thoracic vertebrae. The length of the tape (1) between the securing ends (1b, 1c) when the back is straight and in the correct posture (Figure 1) is slightly shorter than the distance between the aforementioned skin areas when measured via the small of the back (4). The centre part (1a) is detachably attached to one or both securing ends (1b, 1c) by means of a Velcro-tape attachment.



Description**A BANDAGE**TECHNICAL FIELD

The present invention relates to a bandage, and then preferably to a bandage of the kind whose length exceeds its width.

The invention also relates to bandages of the kind which can be said to have a central portion and bandage securing ends located on mutually opposite sides of the central portion and which is coated with a layer of adhesive solely on one surface of the bandage securing ends.

A bandage which is devised in accordance with the present invention can be used as so-called fixation tape for treating patients who suffer with neck and back problems.

BACKGROUND PRIOR ART

Known to the art are a wide variety of plasters or bandages whose lengths exceed their respective widths and which have a central portion comprising gauze or a dressing and bandage securing ends which are located on mutually opposite sides of the central portion and which are coated with adhesive on one side thereof so that the bandage can be attached to the skin of the patient.

Examples of such known bandages are described and illustrated in US Patent Specifications Nos. 2,646,040 and 3,233,608.

Elastic bandages also form part of the relevant prior art.

The elastic bandage sold by Beiersdorf AG, Hamburg, West Germany under the trade name "Elastoplast" can be mentioned as an example of such bandages, the elasticity of which is greater in their longitudinal directions than in their transverse directions and which have an adhesive coating on one side thereof.

Reference to an elastic part in the following description is intended to indicate a bandage section whose elasticity is the same as or similar to the elasticity of the aforesaid elastic bandage or tape in its longitudinal direction while reference to an inelastic part signifies a bandage section whose elasticity is the same as or similar to the elasticity of said bandage in its transverse direction.

The adhesive tape sold by 3M, USA under the trade name "Durapore" is also included here as an inelastic material which is coated with adhesive on one side thereof.

Complementary to the standpoint of technics it can be mentioned that in the U.S. Patent Specification No. 3,194,234 there is disclosed a bandage having a trapezium-shaped centre part which incorporates pockets for accommodating metal stiffening elements and with elastic parts arranged on respective sides of the centre part.

SUMMARY OF THE INVENTIONTECHNICAL PROBLEMS

When using a bandage as a fixating tape a pronounced technical problem resides in the creation of conditions with simple means such that when applied to the skin of a person the tape or bandage will not cause discomfort to the wearer when the part of the body to which the bandage is attached is bent within acceptable limits, but will give a gentle warning, in the form of slight discomfort, when this bending movement approaches unacceptable limits and creates pronounced discomfort when said movement exceeds said unacceptable limits, while still allowing the fixating tape or bandage to be adapted to suit different body forms.

In the case of bandages which are intended for use as fixating tapes in the treatment of neck and back ailments, a pronounced technical problem resides in the creation of conditions, with simple means, which will enable the adhesive-coated ends of the tape attached to the skin to take up the tensile forces which occur in said ends without the ends loosening or becoming displaced relative to the skin.

Another technical problem in the case of such fixating tape is one of obviating the need of strong adhesive coatings, since strong adhesives have an irritating effect on the skin of the wearer, at least in the case of persons with sensitive skin.

Another technical problem is one of providing conditions, with simple means, which will enable the use of a separate, narrow gauze central part and which will ensure that this central part will not break as a result of forces generated in the fixating tape in response to quick body movements, but will nevertheless have a sufficiently strong and readily removed attachment between said central part and respective bandage or tape securing ends.

A further technical problem resides in the provision of a tape or bandage with readily applicable fixation between its centre parts and respective securing ends and being adapted both for therapist and for patient.

Another technical problem resides in the provision of a fixating tape which will not be felt unduly by the patient when moving the body within acceptable limits.

This reduces the occurrence of the increased muscular activity, measurable by EMG-tests, which is experienced after a while by patients as a pronounced tiredness of the spine when a conventional tape is used.

A further technical problem is one of providing a bandage or tape with which the adhesive coatings on the bandage securing ends will not cause irritation of the skin and the occurrence of so-called tension blisters on the skin, even when the bandage is subjected momentarily to high tension forces.

A further technical problem resides in the provi-

sion of a single tape construction which can be adapted for use with different body forms and which affords a simple possibility of adjusting repeatedly the effect of the fixating tape.

Another technical problem resides in the provision of a simple fixating tape which will enable solely the central part to be removed (or loosened at one end) so as to enable the patient to rest, e.g. at night, without being subjected to the effect of the tape.

In the case of a single tape construction which can be adapted to different body forms another technical problem resides in the provision of conditions which will enable the effect produced by the tape to be adjusted by increasing or decreasing the length of the centre part between the points at which the tape is attached.

SOLUTION

The present invention relates to a bandage, or tape, whose length preferably exceeds its width and which comprises a central part and securing ends located on mutually opposite sides of the central part, and with which one surface of respective ends is coated with an adhesive for securing the bandage to separate skin areas.

The invention is based on the assumption that one end of the tape or bandage is intended to be secured to the skin in the small of the back (the lumbar region) and the other end to the skin in the region of the lower or intermediate thoracic vertebrae.

The distance or length between the securing ends, with the centre part stretched slightly, shall be slightly smaller than the distance between the aforesaid skin areas via the curve of the back when the back is straight and held in the correct posture.

In accordance with the invention the centre part shall be attached to one or both of the securing ends in a manner which enables said part to be readily removed and attached.

In accordance with one embodiment this ready removal and attachment of the centre part is effected with the aid of two mutually co-acting Velcro® tapes.

In this case, the two ends of the centre part are caused to extend slightly beyond their respective securing ends so as to form sufficiently extensive Velcro surfaces.

As a result of this removable attachment facility, the longitudinal extension of the centre part between the separate securing ends can be varied easily, so that the bandage or tape can be adjusted to prevailing requirements.

It is also proposed that one part of a Velcro-attachment is attached to the two respective securing ends, and that the other part of the Velcro attachment is attached to the aforesaid two end parts, said one part forming the so-called eye part.

ADVANTAGES

Those advantages primarily afforded by the inventive bandage reside in the provision of possibilities which enable the bandage to be used as a fixating tape in the treatment of neck and back ailments and

the securing ends of which are able to take up high tensile forces, and which enable the length extension of the centre part to be adjusted and therewith adapt the bandage readily to the varying body forms of different people and also to be different effects of the fixating tape desired by one and the same person.

The main characterizing features of a bandage according to the present invention are set forth in the characterizing clause of the following Claim 1.

BRIEF DESCRIPTION OF THE DRAWINGS

An embodiment of the inventive bandage used as a fixating tape and at present preferred will now be described with reference to the accompanying drawing, in which

Figure 1 is a side view which illustrates the inventive bandage used as a fixating tape for maintaining a correct back or spine posture in the treatment of neck and back ailments,

Figure 2 is a side view which shows the fixating tape when the back is sloped forwards, with the curve of the back fully straightened and tape stretched, and

Figure 3 shows the inventive fixating tape from above.

DESCRIPTION OF EMBODIMENTS AT PRESENT PREFERRED

Figure 1 illustrates a bandage which has the form of a fixating tape for treating patients suffering from neck and back ailments and the length of which exceeds its width. The bandage, or tape, is referenced 1 and has a centre part 1a and securing ends 1b and 1c on mutually opposite sides of the centre part, where solely the securing ends 1b and 1c have an adhesive coating on one surface thereof.

The adhesive coating on the securing end 1c is intended to secure said end to a skin area 2 in the lumbar region, while the adhesive coating on the securing end 1b is intended to secure said end to a skin area 3 in the region of the lower or intermediate thoracic vertebrae.

It will be seen from Figure 1 that the tape shall be applied so that when the back is straight (Figure 1) the length of the tape between the securing ends 1b and 1c is slightly shorter than the shortest distance between the skin areas 2 and 3 via the small of the back 4, which is illustrated in Figure 1 by showing the tape arched slightly to the right as seen in the Figure. The tape is thus not fully stretched between the skin areas 2 and 3 when securing the tape with the back correctly positioned.

Figure 2 illustrates stretching or tightening of the tape when the back is bent forwards into an undesirable posture, while straightening the curve of the back.

When the back is held in a non-detrimental posture or position, the patient will not feel the tape, whereas when the back is moved towards a detrimental posture the patient will suffer discomfort from the tape. When the back is moved into a position which is fully detrimental to the patient, the

tape will stretch to an extent which causes acute discomfort, these feelings of discomfort varying more or less proportionally with the extent of deviation from the correct back posture.

In accordance with the invention the bandage, or tape, will have located between at least one securing end and the centre part a further part 1d and 1e which will enable the centre part to be removed easily but which is also effective in firmly holding said centre part.

The fixation tape is shown from above in Figure 3, from which it will be seen that the centre part of this embodiment is narrower than the securing ends and that the further parts 1d and 1e have a taper which faces the centre part 1a.

The securing ends 1b, 1c have a cut-out or like recess 1f and 1g respectively at the ends thereof remote from the centre part 1a.

It is proposed that the centre part 1a is totally inelastic in both the longitudinal and transverse directions.

Each of the securing ends is coated on one side thereof with a layer of adhesive which is kind to the skin and which has been allergy tested and which will adhere strongly to the skin of a patient.

It is also proposed that the central part 1a and the two further parts 1d and 1e are free from such adhesive coatings.

It is further proposed in accordance with the invention that the bandage is made from a synthetic, tear resistant non-woven fabric which will allow the skin to breath and which will dry quickly when becoming wet.

A particular advantage is afforded when the securing ends 1b, 1c are configured to afford the best possible adhesion against the skin end when the attachment surface is formed to produce the least possible irritation and wrinkling of the skin when the centre part 1a is subjected to loads which cause the occurrence of tensile forces between skin and securing or attachment part.

The fixating tape 1 illustrated in Figure 3 comprises three parts, i.e. a securing end 1b, a centre part 1a and a securing end 1c.

The centre part 1a shall be held firmly on, but readily removable from, the respective securing ends 1b and 1c, and to this end an "eye part" 1d' and 1e' of a Velcro® connection is attached to the part 1d and 1e, where the "curved part" is applied to the end parts 1a' and 1a'' of the centre part 1a.

This enables the length of the centre part 1a between the securing ends 1b and 1c to be easily adjusted, or the centre part to be removed completely, if desired.

The Velcro connection can be either woven into, sewn on, or welded to respective parts 1b and 1c, or affixed thereto in some other suitable manner, as glued thereto.

It will be apparent from Figure 3 that the length of the centre part 1a shall be such that a portion of the centre part will cover the parts 1d and 1e such as to afford full co-action between the centre part and the securing ends or the attachment points.

It will be understood that the illustrated and described embodiment does not limit the invention

and that modifications can be made within the scope of the following claims.

Claims

1. A bandage which preferably has a greater length than width and which comprises a centre part (1a) and bandage securing ends (1b, 1c) located on mutually opposite sides of said centre part and with which solely the securing ends are coated on one surface thereof with an adhesive layer for attachment of said ends to a skin area, wherein one securing end (1c) is intended to be affixed to a skin area (2) in the small of the back or lumbar region whereas the other securing end (1b) is intended to be affixed to a skin area in the region of the lower or intermediate thoracic vertebrae, and wherein the length extension of the tape (1) between the securing ends (1b, 1c) with the back in a straight and correct posture (Figure 1) is slightly shorter than the distance between said skin areas via the small of the back (4), characterized in that the centre part (1) is detachably attached to one or both of the bandage securing ends (1b, 1c).

2. A bandage according to Claim 1, characterized in that the detachable attachment is a Velcro® tape attachment.

3. A bandage according to Claim 1 or Claim 2, characterized in that each of the two end parts (1a', 1a'') of the centre part extends beyond its respective separate securing end (1b, 1c).

4. An arrangement according to any of the preceding Claims, characterized in that the longitudinal extension of the centre part (1a) between the separate securing ends can be varied.

5. An arrangement according to any of the preceding Claims, characterized in that one part of a Velcro-tape attachment is fastened to the two separate securing ends (1b, 1c) and that the two end parts (1a', 1a'') are fastened to the other part of a Velcro-tape attachment.

6. An arrangement according to Claim 5, characterized in that said one part forms the so-called eye part.

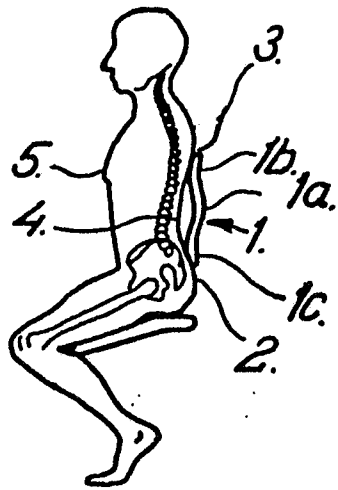


Fig. 1

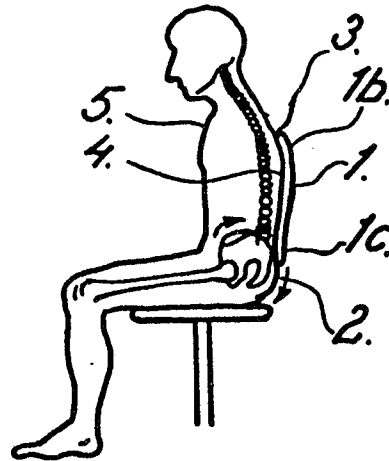


Fig. 2

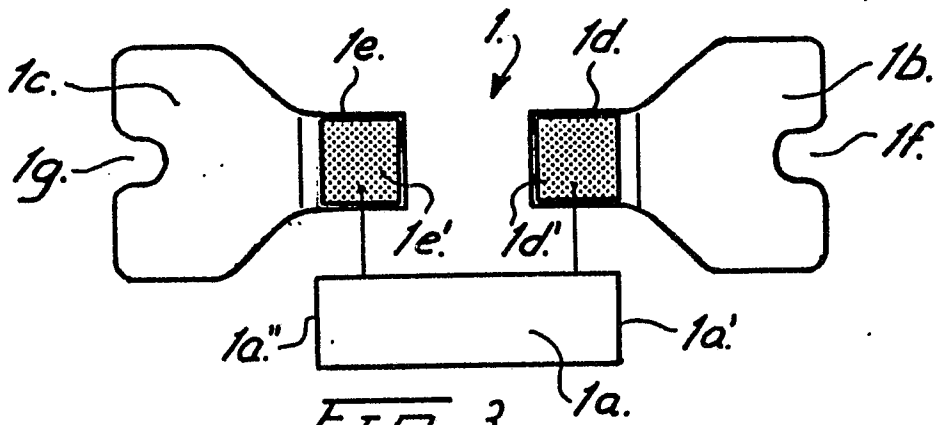


Fig. 3



DOCUMENTS CONSIDERED TO BE RELEVANT			EP 88850280.4
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int. Cl. 4)
D,A	<u>US - A - 3 194 234</u> (DUCKMAN) * Claims * --	1	A 61 F 13/14
A	<u>GB - A - 2 123 297</u> (DONALDSON) * Totality * ----	1-6	
			TECHNICAL FIELDS SEARCHED (Int. Cl. 4)
			A 61 F A 61 L
The present search report has been drawn up for all claims			
Place of search VIENNA		Date of completion of the search 12-12-1988	Examiner SCHÄFER
CATEGORY OF CITED DOCUMENTS X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document			